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Ref: EPR-N

JUL 16 2009

Ms. Mary Gibson Scott, Superintendent
Grand Teton National Park
P.O. Drawer 170
Moose, WY 83012

Re: Jackson Hole Airport Use Agreement Extension
Draft Environmental Impact Statement, CEQ#20090098

Dear Ms. Scott:

In accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609, the U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the Draft Environmental Impact Statement (Draft EIS) for the National Park Service's (NPS) proposed extension of the *Agreement Between the United States Department of Interior and the Jackson Hole Airport Board, April 27, 1983*, (Airport Use Agreement). Based on our review, EPA has identified six significant objections and concerns.

- (1) The noise impacts to the natural soundscape are significant and long term. These impacts should be further analyzed and mitigated to protect National Park values.
- (2) The analysis of the noise impacts to the natural soundscape is incomplete, does not fully disclose the extent of the impacts, and does not adequately address current and projected noise impacts on the Park.
- (3) The Draft EIS should include an analysis of the effectiveness of the existing Noise Abatement Plan and identify additional noise mitigation measures to address the significant and long-term impacts to soundscape.
- (4) The Draft EIS included a narrow range of alternatives. Only the proposed action and no action alternatives are analyzed. Reasonable alternatives that include mitigation to reduce the significant environmental impacts should be analyzed in the EIS.
- (5) The Draft EIS should address connected actions that are likely to result if the Airport Use Agreement is extended.
- (6) The Grand Teton National Park is a federal Class I area under the Clean Air Act and the EIS should include additional air quality analysis.

We appreciated the opportunity to recently meet with you to discuss the Draft EIS, and want to reiterate our commitment to working with you, the Airport Board, and the Federal Aviation Administration (FAA) to address our concerns and fully explore mitigation options for the Jackson Hole Airport. As discussed at our meeting on July 15, 2009, EPA accepts NPS' offer to work collaboratively to address our concerns and avoid significant impacts to the National Park. EPA's detailed comments on noise, cultural resources, air quality, lead emissions, and climate change are included in the attachment.

Project Background and History of NEPA Actions

The Draft EIS considers whether to extend the Airport Use Agreement by two 10-year terms to the year 2053. The Jackson Hole Airport is the only major commercial airport in the Nation located within the confines of a National Park. Grand Teton National Park preserves one of the world's most spectacular environments. The Park is largely roadless and is characterized by a natural landscape, except for the aircraft facilities. In addition, the Grand Teton National Park is designated a federal Class I area under the Clean Air Act, requiring special protection of air quality and air quality related values, such as visibility and dark night skies. The airport averages 150 daily flights in the peak summer season with a few days above 200 flights (Draft EIS, page iv). At 200 flights a day, the airport would average an arrival or departure operation every 2.5 minutes during hours of airport operation from 6:00 am to 11:30 pm. This includes five commercial air carriers providing passenger service on 12 to 15 flights per day using aircraft ranging in size and including the 188-seat Boeing 757. Six percent of the approximately 2.4 million visitors to the Park each year arrive by plane through the Jackson Hole Airport (Draft EIS, page 12).

EPA has had longstanding concerns about the environmental consequences of operating an airport in the Grand Teton National Park, which has been given the highest category of protection available as an integral and irreplaceable part of the National Park System. The impacts of a commercial airport in a national park and federal Class I area have significant implications. EPA first raised concerns about the Jackson Hole Airport in 1973 when NPS proposed to lengthen the runway for commercial jet service and implement several other safety improvements. EPA rated the Draft EIS for this proposal Environmentally Unsatisfactory – Insufficient Information (EU-2) and recommended preparation of environmental noise studies and regional transportation studies that accounted for the unique park setting. NPS acknowledged these concerns and denied approval for the runway extension. In 1977, modifications to the airport were again considered when the FAA released a Draft EIS for the Airport Master Plan proposing a runway extension to provide for commercial jets and other capacity improvements. This time, EPA rated the Draft EIS Environmentally Unsatisfactory – Inadequate Information (EU-3) again due to concerns related to noise impacts. This EIS was ultimately referred to the Council of Environmental Quality (CEQ) for resolution (see enclosed referral package). In August 1979, the Secretary of Interior denied the runway extension, imposed a noise abatement plan, and urged airport relocation by 1995. However, the long-term plan to relocate the airport outside the Park was overturned in the early 1980's by Secretary of Interior James Watt who formally signed a new Airport Use Agreement with the Jackson Hole

Airport Board on April 27, 1983, allowing for continued operation of the airport for a term for 30 years with two 10-year renewal options.

It is noteworthy that Secretary Watt's decision included a noise abatement plan and additional mitigation actions to address the potential significant noise impacts. EPA had the opportunity to discuss Secretary Watt's Noise Abatement Plan during a meeting with NPS and airport management in May of this year. NPS conveyed that overall these measures have not been fully effective for the purpose intended of reducing noise impacts to the Park. In particular, airport management noted its lack of authority to implement these measures as mandatory conditions for using the airport and that many mitigation measures in the Noise Abatement Plan are essentially voluntary.

Adverse Impacts to Natural Soundscape

Quiet and solitude are vital elements of a high quality experience in our National Parks. The Draft EIS discloses that impacts of aircraft noise to the natural soundscape from the proposed Airport Use Agreement extension would be major, indirect, long-term, and adverse (Draft EIS, page 64). While EPA agrees with these conclusions, we are concerned that the Draft EIS in fact may underestimate these impacts.

In 1979, when a runway extension was being considered, Secretary of Interior Cecil Andrus acknowledged that continued expansion and incremental improvement of the airport would only result in continued growth of aircraft operations with a significant and deleterious effect on the National Park. At that time, only three daily commercial jet aircraft flights were being considered. Growth at the airport has exceeded projections made in the late 1970s and there are currently up to 15 regularly scheduled commercial jet flights a day during peak season. Furthermore, there are no limitations currently in place that would curb the future growth of this facility for either commercial or general aviation. The EPA, therefore, remains concerned that continued operation of Jackson Hole Airport without additional restrictions and enforceable noise mitigation measures will continue to further impair Grand Teton National Park.

EPA found aircraft noise impacts to be unacceptable in the past and the Agency remains concerned given the substantial growth in aircraft operations since the last use agreement extension, the ineffectiveness of the current noise abatement plan and the unfettered growth of future aircraft operations that would be allowed under the existing use agreement. Potential impacts from the Airport Use Agreement extension should be carefully examined in the context of NPS's statutory mandate and management policies to reduce impairment of the natural experience the National Park System aims to provide¹. In particular, EPA would like a

¹ The National Park Service Organic Act bestows on NPS the power to promote and regulate the national park system and "to conserve the scenery and . . . provide for the enjoyment of the same in such manner and by such means as will leave them *unimpaired* for the enjoyment of future generations." See 16 U.S.C. Sections 1-4. The NPS Management Policies handbook discusses unacceptable impacts, including actions that unreasonably interfere with "the atmosphere of peace and tranquility, or the natural *soundscape* maintained in wilderness and natural, historic, or

demonstration that the airport is managed in a way that will minimize and reduce this impairment over time. EPA believes the Noise Abatement Plan should be strengthened to minimize these significant impacts and this should occur before the use agreement is extended. Given the predicted increase in noise impacts in the Park with the Airport Use Agreement extension, EPA recommends the NPS and the Jackson Hole Airport Board, in coordination with the FAA and EPA, identify additional noise mitigation measures in an EIS and include an implementation plan in the Record of Decision and ensure this plan is addressed as a condition of any extension of the Airport Use Agreement. The measures should also include those identified by the Secretary of Interior in 1983 at the time of the last use agreement extension which have yet to be acted upon. As discussed at our meeting on July 15, 2009, EPA supports and is willing to work with the NPS and the Jackson Hole Airport Board to request FAA implement these mitigation measures.

Analysis of Impacts to Natural Soundscape

Without a more thorough analysis, it is difficult to ascertain the full scope of the project's impact on the environment and soundscape of the Park. The application of the Integrated Noise Model was conducted in a way that could not be clearly understood by EPA experts. The assumptions and model variables are not disclosed fully in the Draft EIS and the Day Night Average Noise Levels (L_{dn}) analysis appears to have excluded night time aircraft operations within and outside of the "voluntary curfew" time period at the airport. EPA believes that a decision this important to the future of Grand Teton National Park should be supported with a thorough and rigorous analysis of the current and future operations at the airport and the effectiveness of the existing noise abatement plan. This is particularly important given that noise control objectives in the existing noise abatement plan are delineated in terms of L_{dn} . The L_{dn} analyses should also evaluate the noise impacts separately for commercial and general aviation activities as well as the combined effects.

EPA believes that audibility of aircraft noise in both duration and intensity is the most important impact to quantify and disclose for this project. It is essential to quantify as accurately as possible the time aircraft noise intrudes over the extremely low ambient sound levels (L_{90}) found in large areas of Grand Teton National Park. The sound intensity level analysis performed as part of this Draft EIS is not an adequate approach and serves to underestimate the audibility of aircraft in intensity, duration, and geographic extent. Multiplying the two values ($L_{eq} \times \% \text{audible}$) has the effect of underestimating the intensity and duration of aircraft noise audibility in the Park. The NPS should not proceed with the decision to extend the Airport Use Agreement until the issue of audibility is more thoroughly and accurately analyzed and disclosed.

An analysis of both existing and future aircraft operations should be performed with adequate documentation of assumptions used in the analysis. Given the long term nature of the decision to be made by the Department of Interior, adequate protection of the Park should include a sensitivity analysis of a range of growth projections for the airport operations. The Draft EIS

commemorative locations within the park." See NPS, Management Policies 2006: The Guide to Managing the National Park System Section 1.4 *available at* <http://www.nps.gov/policy/mp/policies.html#Toc157232605>

and noise analyses were based on a very modest projection of growth in the future which cannot be supported by the rapid growth trend in operations observed since the last Airport Use Agreement. If the 3.5% growth rate is justified with further information and analysis, the EIS should consider an alternative which caps the future airport operations at an appropriate number. If not, the EIS should evaluate a range of possible future aircraft activities to ensure that noise abatement procedures and operational controls will not continue to significantly impact the Park.

In summary, EPA believes the full impacts of noise on the Park have not been accurately or fully disclosed. The document does not adequately describe to the public the methods, assumptions and data used in either the analysis of the Day Night Average Sound Levels (L_{dn}) or in the analysis of sound intensity index. The document should disclose impacts in a way that can be understood and replicated by other agencies and/or the public. The Draft EIS did not adequately achieve this objective.

The attached comments provide additional detail on this subject. At considerable expense and under the constraints of time, EPA retained an independent noise expert to review the Draft EIS and these comments. Based on consultation with this independent expert, EPA believes additional analysis of aircraft noise in Grand Teton National Park should be conducted to more accurately disclose the existing and future aircraft noise impacts, evaluate the effectiveness of the current noise abatement plan, and identify modifications or new actions needed to protect Grand Teton National Park during the next 40 years. Given the EPA's historical involvement with the Department of Interior on this issue, we request to be more actively engaged in future matters involving the airport and protection of Grand Teton National Park's soundscape. EPA offers to work with the NPS to develop a more accurate methodology and more accurate disclosure of aircraft noise impacts in Grand Teton National Park.

Inadequate Noise Abatement Plan

The Draft EIS includes no evidence that the noise monitoring and noise abatement efforts established in the 1980's are effective in preserving and protecting the noise sensitive areas of the Park. EPA notes important airport noise mitigation measures first directed 25 years ago by Secretary Watt to ensure safe, efficient airport operations compatible with Grand Teton National Park have never been fully implemented. NPS has indicated to EPA, as noted above, that the Noise Abatement Plan has had limited success. EPA recommends the EIS disclose how the Noise Abatement Plan has functioned since its enactment in 1985, along with its current status and NPS's understanding of its overall effectiveness. With a more thorough discussion of how the Noise Abatement Plan has served its intended purpose, NPS would be in a better position to identify additional noise mitigation measure that would be more effective. EPA recommends NPS consider implementing such additional noise mitigation measures as a condition of the Airport Use Agreement extension. The updated Noise Abatement Plan should be based on a thorough aircraft noise analysis and should be designed in a manner that ensures the effectiveness and enforceability to protect the National Park into the future.

To this end, we recommend that the NPS establish an independent public stakeholder group to monitor and evaluate the effectiveness of noise abatement procedures as part of a

Record of Decision and/or revised Airport Use Agreement. This group would provide valuable oversight and public accountability for the Noise Abatement Plan to protect the Park. EPA requests to be a participant in this proposed process.

Range of Alternatives

EPA is concerned about the limited range of alternatives analyzed in the Draft EIS. NEPA requires analysis of a range of reasonable alternatives to a proposed action. While the Draft EIS identified several action alternatives that included additional noise mitigation measures (i.e. limiting airport use, modification of noise abatement plan to reduce noise limits), these alternatives were eliminated from detailed study. Accordingly, the Draft EIS examines in detail only two alternatives: the proposed action and the no-action alternative. Based on our review of the Draft EIS, we believe that several of the alternatives that were eliminated from detailed consideration meet the stated purpose and need for this project and may indeed be reasonable and practicable alternatives that merit a full exploration and evaluation in the EIS. Without additional supporting documentation or discussion as to why all of these alternatives were eliminated from detailed consideration, we believe the alternatives analysis is inadequate because it does not rigorously explore and objectively evaluate all reasonable and practicable alternatives, including reasonable and practicable alternatives not within the jurisdiction of the lead agency. Given the predicted significant, adverse noise impacts and the lack of demonstrated effectiveness of the Noise Abatement Plan, EPA recommends these the EIS provide a detailed analysis of additional appropriate alternatives.

While we recognize that the Draft EIS indicates that Congressional authorization may be required to implement some of the alternatives, the need for Congressional authorization, in and of itself, should not be a reason to exclude an alternative from detailed consideration. Moreover, our discussions with NPS lead us to believe that it may be feasible to negotiate a modification to the Airport Use Agreement to implement additional mitigation measures.

Connected Actions

EPA is concerned that the Draft EIS does not thoroughly address actions that are likely to result if the Airport Use Agreement is extended. The projected growth that is anticipated is dependent upon continuous infrastructure and safety improvements. The Draft EIS indicates that the airport's current plans include expansion of the terminal building, a new deicing pad and glycol recapture system, runway rehabilitation and centerline lights, and a safety planning study. NPS should consider whether these anticipated repairs or modifications are connected actions or similar actions that merit further discussion in the EIS. EPA recently learned from NPS that an airport safety audit is currently being conducted, and that the findings of this audit may have ramifications for future airport operations. The EIS should disclose information regarding the safety audit and explain the process NPS will undertake to address the findings and any directives provided through the audit. More thorough discussion of likely future actions at the airport will lead to a clearer understanding of the potential environmental impacts.

Insufficient Air Quality Analysis

The Clean Air Act requires special protection of air quality and air quality related values (such as visibility) in many of the nation's wilderness areas and national parks. Subpart II of Part C of the Clean Air Act prescribes a program specifically for the protection of visibility in federal Class I areas and establishes "as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I federal areas which impairment results from man-made air pollution." As the Jackson Hole Airport is unique in that it is perhaps the only commercial airport located in a federal Class I area, its impacts on air quality merit thorough attention and should be fully addressed in the EIS.

EPA is concerned that, despite the location of the Jackson Hole Airport inside a federal Class I area, the Draft EIS does not analyze the direct, indirect, and cumulative impacts of the proposed Airport Use Agreement extension on air quality and relies on an old air emissions inventory. The Draft EIS does not disclose emissions of lead, a persistent, bio-accumulative and toxic pollutant that continues to be used in leaded aviation fuel. The 2000 Air Emissions Inventory used in the Draft EIS is outdated and does not reflect all the current emissions data for the sources at and using the airport. EPA recommends NPS update the current baseline emission inventory for the airport and provide projections of future year emission inventories to reflect the anticipated airport growth. As emission inventories do not provide the decision-maker with a sense of the potential impacts to visibility, EPA further recommends NPS complete a visibility screening air quality model, such as VISCREEN, to consider the potential impacts to the Grand Teton federal Class I area from the decision to extend the Airport Use Agreement. Regarding lead, EPA recommends the lead emissions and the potential impacts to the Park and nearby residents be discussed in view of current and projected future aviation activities at the airport.

EPA's Rating

Consistent with section 309 of the Clean Air Act, it is EPA's responsibility to provide an independent review and evaluation of the potential environmental impacts of this project. In accordance with our policies and procedures for reviews under NEPA and Section 309 of the Clean Air Act, EPA is rating this Draft EIS as "Environmental Objections – Insufficient Information" ("EO-2"). This rating is based primarily on EPA's concern that the Draft EIS does not contain sufficient information or thorough analysis to fully assess the potential noise and air quality impacts of a decision to extend the current use agreement, and that the proposed action alternative may have significant impacts that should be avoided in order to adequately protect the environment. The Agency believes additional analysis and information is needed before proceeding with a decision on this project. In addition to EPA's detailed comments on the Draft EIS, a full description of EPA's EIS rating system is enclosed.

EPA would welcome the opportunity to work with NPS towards the development of long-term solutions to the problems posed by continuation of airport operations. If you have any questions regarding our comments or this rating, please contact me at 303-312-6340 or Larry Svoboda, EPA Region 8 NEPA Program Director, at 303-312-6004.

Sincerely,



Carol L. Campbell
Assistant Regional Administrator
Office of Ecosystems Protection and Remediation

**Detailed Comments by the Region 8 Environmental Protection Agency for the
Draft Environmental Impact Statement (Draft EIS)
Jackson Hole Airport Use Agreement Extension
Grand Teton National Park, Wyoming**

Audibility

EPA believes the noise impacts disclosed in the Draft EIS are underestimated and minimize the potential impacts to the Park. EPA is specifically concerned about the sound intensity index, the percent time audible and the ambient sound levels used in the analysis. Noise impacts in the Park may be considerably greater than disclosed.

The Draft EIS includes a sound intensity index that is depicted as “useful in visually illustrating the relative intensity of aircraft sound impacts.” (Draft EIS page 82) EPA had concerns that including the sound intensity index as presented may be unintentionally misleading to the public due to the calculation methods used to derive this index. According to the Draft EIS, “The sound intensity index is the product of the modeled percent of time audible and energy average sound levels into a single unit.” (Draft EIS, page 81) High percent audibility is correlated with low energy average sound level, while low percent audibility is correlated with high energy average sound level. As a result, high percent audibility areas and low percent audibility areas are lumped together with similar sound intensity indices. Only areas with high percent audibility and high energy average sound level, such as the vicinity of the airport can have a high sound intensity index. As calculated, EPA believes the sound intensity index minimizes the impact of noise to the National Park and therefore needs to be either revamped or removed from the EIS to avoid confusion. EPA acknowledges that the Draft EIS discloses on page 82 that this index “was not used in determining the impacts of the alternatives on the natural soundscapes of Grand Teton National Park.” However, we think the index misrepresents the significance of the impacts.

EPA further believes the noise impacts and estimated percent of time an aircraft is audible in the Park is underestimated and may be considerably higher. NPS used FAA’s Integrated Noise Model (“INM”) to estimate the percent time audible based on an ambient sound average of 30 dBA. EPA is concerned that this may be too high of a value to represent the conditions in the Park and recommends that NPS clarify the basis for using an ambient sound average of 30 dBA. We have at least four reasons to question the application of the FAA’s model for use in this situation. (1) The Draft EIS concedes that audibility has been underestimated in quiet, i.e. noise sensitive areas of the Park. (2) The modeling results for the Timber Island are inconsistent with the Airport monitoring at that site, in a noise sensitive area. (3) The use of an energy average sound level to gauge audibility cannot provide reliable results. Sounds can be audible even though the average sound level of the intruding sound is less than the energy average sound level of the background. (4) Science has shown that you must use a methodology that is consistent with one third octave band analysis. This conclusion is based on studies of audibility in Grand Canyon National Park. Given the unique location of Jackson Hole Airport, a

more defined and well-explained analysis of the baseline ambient sound is recommended to fully understand the impacts to the Park. The Draft EIS identifies an average ambient sound level of 28.8 dBA (Draft EIS, Table 8). However, by averaging the various sound levels found within the Park to arrive at one level, the lower values that would seem to be most representative of a Park visitor's experience are essentially eliminated. Given the circumstances, multiple ambient sound averages (high, medium, low) should be used to better represent the potential change. Using an average sound level in this model could potentially misrepresent the conditions of the Park and would underestimate the frequency, magnitude, duration and geographic extent of the aircraft noise impacts.

EPA notes that commercial jet overflights of western parks are audible for approximately five minutes when background sound levels are under 30 dBA. This translates to the jets being audible when they are within 23 miles of an observer. With this, we can estimate the audibility of southerly jet departures at Timber Island, a permanent noise monitoring site in the noise sensitive area. Timber Island is seven miles north of the airport and a jet will be audible at Timber Island until the jet is 23 miles away, or 16 miles south of the airport. Using an average jet speed of four miles per minute over those 16 miles, we calculate an estimated audibility of four minutes. This leads to approximately 200 minutes per day in the peak season, or 22 percent of time audible. Consideration of jet approaches, northerly jet departures, and non-jet operations would increase the percent of time audible still further.

Under the proposed Airport Use Agreement extension, the Draft EIS states that aircraft would be audible more than 10 percent of the time in 27 percent of the Park in both the 2015 and 2025 peak seasons (Draft EIS, page 245). By comparison, aircraft were audible more than 10 percent of the time in 23 percent of the Grand Teton National Park for the baseline 2005 peak season. It is EPA's view that the method for calculating audibility of aircraft noise has been underestimated. This is a critical consideration in evaluating the impact on the Park.

Grand Teton National Park includes vast areas with extremely low ambient sound levels. EPA conducted a field study in 1979 and found ambient sound levels (L_{90}) for extended periods of time at levels below 18 dBA which was the limit of the sound monitoring equipment. The EPA understands that the NPS has more recently measured ambient sound levels (L_{90}) as low as 7 dBA using more advanced modern equipment. The Draft EIS does not disclose that ambient sound levels can dip as low as 7dBA, but rather indicates that the airport noise monitoring network records ambient sound levels in the 30 dBA range the majority of the time. The EIS should disclose the reason for focusing on these elevated ambient levels without reference to low-end variables. As using an average sound level may be misleading in this context, the EIS should address the effects of lower ambient sound levels on aircraft audibility. Audibility should be thoroughly reevaluated before concluding the scope of impacts on the Park.

According to the 2008 Annual Noise Report prepared for the Jackson Hole Airport Board, ambient sound levels at the Timber Island permanent noise monitoring site in a noise sensitive area defined by the Airport Use Agreement are sometimes under 30 dBA in mid-morning during the peak season (page A-6). These sound levels are similar to a quiet bedroom or a recording studio. During a 20 minute sample time history at the Timber Island site, three

aircraft events occurred, with an average time audible of at least two minutes. The lack of analysis of these types of events is a serious deficiency of the Draft EIS. Likewise, there is a lack of clarity about how the noise monitoring and abatement programs are assuring "that aircraft noise exposure will remain compatible with the purposes of Grand Teton National Park and will result in no significant increase in the cumulative or single event noise impacts on noise sensitive areas of the Park." (Airport Use Agreement, page 4)

It appears that L_{dn} has not fully accounted for night time aircraft operations that occur within the airport and, therefore, the calculation is an equivalent sound level (L_{eq}) instead of an L_{dn} , again, under-estimating true L_{dn} noise levels. We understand that NPS did not include night time operations because of the voluntary curfew for such operations. There are many flights that occur between the hours that are considered "night time" in the Integrated Noise Model (10 p.m. to 7 a.m.) and the hours established for the curfew (11:30 p.m. to 6:00 a.m.), yet these 2.5 hours of flights are not accounted for in the Draft EIS. Furthermore, we understand that the voluntary curfew is violated approximately six times per month. Failing to account for night time operations has the effect of underestimating the L_{dn} values and the area impacted by aircraft noise. The L_{dn} approach calculates a penalty or weighted number for flights that occur at night. If you account for those six aircraft, EPA recognized in the L_{dn} approach that the penalty was equivalent to multiplying the number of nighttime operations by 10. Thus, it would be more appropriate to consider the impact of the nighttime operations (takeoffs and landings) as comparable to 60 to 120 additional daytime operations. It is important to the basic integrity and accuracy of the model to account for these flights. The Draft EIS also does not provide an adequate description of input values and modeling assumptions used in the Integrated Noise Model. The EIS should fully disclose and document this important information.

Inadequate Noise Abatement Plan

EPA is concerned that the important mitigation measures identified in 1983 by Interior Secretary Watt "to ensure safe, efficient airport operations compatible with Grand Teton National Park" have never been fully implemented by the DOI and FAA. In the first of two directives, Secretary Watt formally requested assistance from the Department of Transportation and FAA on three specific measures to ensure mitigation of noise impacts: (1) restriction of the airspace over noise sensitive areas of the Grand Teton National Park; (2) as an interim measure until the airspace could be formally restricted, promulgation of a special airspace rule which would specify a minimum altitude of three thousand feet above ground level (3,000 AGL) over the noise sensitive areas; and (3) elimination of the Victor Airway 520 between Driggs, Idaho and Jackson, Wyoming. While some of these measures have been implemented as voluntary mitigation, EPA is concerned that none of the important actions proposed by DOI 25 years ago to resolve the noise concerns and to assure compatibility between airport operation and the National Park have been implemented to the full extent possible. EPA recommends the EIS address the status of these actions and detail on-going efforts to implement these important noise mitigation measures and ensure that noise abatement is accomplished.

Secretary Watt's second action to address potential noise impacts from the Jackson Hole Airport was implemented through the Airport Use Agreement and called for the development of

a Noise Abatement Plan. Under the 1983 Airport Use Agreement, the Jackson Hole Airport Board was required to prepare a revised noise control plan that would “ensure that future airport operations are controlled in such a manner that aircraft noise exposure will remain compatible with the purposes of Grand Teton National Park and will result in no significant increase in cumulative or single event noise impacts on noise sensitive areas of the Park.” Despite the Jackson Hole Airport Board’s reaffirmation of its commitment to implement new and prudent technology to further reduce future noise impacts in the Park in its April 25, 2005 correspondence to NPS, EPA is concerned that the existing Noise Abatement Plan has not been updated in more than 20 years and that no additional noise mitigation measures are considered with this extension proposal. This omission is especially glaring given the projected increase in noise impacts over the Park identified in the Draft EIS. The decision to extend the Airport Use Agreement provides an ideal opportunity for NPS to review current mitigation practices and explore additional measures that may be implemented to address both existing and anticipated noise concerns.

The 1985 Noise Abatement Plan established by the Jackson Hole Airport Board identifies noise sensitive areas; establishes noise monitoring; and establishes a preferential approach runway. A voluntary curfew has also been established for the airport between the hours of 11:30 pm and 6:00 am for landing and 10:00 pm and 6:00 am for takeoff. The Draft EIS discloses, however, limited success with some of the established mitigation measures. Despite NPS’s stated preference that aircrafts approach and depart from the south to minimize flying over the Park, most approaches are being made from the north and 15 percent of departures leave toward the north (Draft EIS, page 89). The voluntary curfew is violated by an average of six aircraft per month (Draft EIS, page 75) and violators are not subject to any substantive penalties. EPA is concerned by the lack of effectiveness of these mitigation measures and asks that NPS evaluate its ability to impose more effective, enforceable measures. This evaluation should be included in the EIS. The proposed extension of the Airport Use Agreement provides the NPS and the Jackson Hole Airport Board with an opportunity to “review and amend the plan to incorporate new prudent and feasible technological advances which would allow further reduction in noise impacts” (Airport Use Agreement, page 5).

EPA further recommends the Jackson Hole Airport Board consider stricter enforcement of the curfew. Owners of aircraft that violate the curfew are currently notified by letter and requested to refrain from further violation. EPA questions whether the Airport’s letter notification system is sufficient for discouraging violations of the curfew. The Aspen/Pitkin County Airport in Colorado has also battled with noise issues and has successfully implemented a curfew between the hours of 11:00 pm and 7:00 am. While commercial flights can request waivers of the Aspen curfew, general aviation flights cannot. Per county code, violations of the curfew are considered a class I petty offense and require a court appearance. EPA recommends that NPS evaluate whether a similar enforcement mechanism for the curfew could be established with the Town of Jackson as has been done to further enforce the ban on Stage II aircraft at the Jackson Hole Airport. Under the Town of Jackson Municipal Code, the ban on Stage II aircraft is enforced and violations of the rule result in a mandatory court appearance and fines (Draft EIS, page 74).

Air Quality - Visibility

The Clean Air Act contains general provisions for a Prevention of Significant Deterioration (PSD) program designed to protect federal Class I areas from air quality degradation under Subpart I of Part C. The PSD program places an affirmative responsibility on federal land managers to protect air quality in many of the most important national parks and wilderness areas in the nation from human-caused pollution.

EPA conducted a visibility screening analysis using VISCREEN of the current operations at the airport based on data included in the 2000 Air Emissions Inventory. The results showed that under very adverse meteorological conditions, airport emissions may cause perceptible visibility impairment (plume blight/discoloration) for several scenic vistas within the Park. NPS should conduct a more thorough analysis of all project related sources, potential growth, and the potential impacts to air quality related values (AQRV).

Air Quality – Lead Emissions

Emissions of lead associated with the airport are of additional concern to EPA, yet are not disclosed in the Draft EIS. Lead is a persistent, bio-accumulative, and toxic pollutant. While EPA has phased out use of leaded fuel from on-road vehicles, leaded fuel continues to be used in aircraft. General aviation aircraft emissions (piston engines) are one of the remaining sources of airborne lead emissions due to the leaded fuel used for the high-compression piston engines used in many of these aircraft. In late 2008, EPA revised the National Ambient Air Quality Standard (NAAQS) for lead from $1.5 \mu\text{g}/\text{m}^3$ to $0.15 \mu\text{g}/\text{m}^3$ as measured over a rolling 3-month average (ref. 73 FR 66964, November 12, 2008, effective January 12, 2009.) The primary and secondary standards for lead are the same. In EPA's report, *Lead Emissions from the Use of Leaded Aviation Gasoline in the United States* (EPA420-R-08-020, October 2008), EPA has estimated that the Jackson Hole Airport general aviation aircraft operations emit approximately 76 kg/yr (or 168 lbs./yr) of lead in 2002 (see http://www.epa.gov/ttn/chief/net/tsd_avgas_pb_inventory_2002.pdf). EPA recommends the lead emissions and the potential impacts to the Park and nearby residents be discussed in view of current and projected future general aviation activities at the airport.

Air Quality – Emissions Inventory

For an update to the 2000 Air Emissions Inventory, EPA has the following comments:

1. The "PART" model referenced in the 2000 Air Emissions Inventory is no longer approved for use by EPA for estimating re-entrained road dust emissions and that EPA's MOBILE6.2 model and AP-42 section 13.2 are now required.
2. The 2000 Air Emissions Inventory incorporated Wyoming data from the 1999 National Emissions Inventory (NEI) maintained by EPA. The 2005 NEI is now available and should be used.

3. Non-road emissions that are not calculated by the FAA's "Emissions and Dispersion Modeling System" (EDMS) (http://www.faa.gov/about/office_org/headquarters_offices/aep/models/edms_model/) should now be prepared with EPA's Non-Road 2008 model (see <http://www.epa.gov/otaq/nonrdmdl.htm>).
4. The Draft EIS does not describe current (through, and perhaps including, calendar year 2008) landing and takeoff (LTOs) for both commercial and general aviation aircraft. These data should be provided in order for emissions to be estimated for current aircraft/airport activities. Calendar year 2008 could then be used to compare estimated emissions for the projected LTOs for year 2025 found in Table 12 (Draft EIS, page 122). Further, LTOs should also be provided for 2033 and 2053 so that emissions could be estimated for both alternatives in the Draft EIS.
5. On page 28 of the Draft EIS, a reference is made to Table 14 in the 2000 Air Emissions Inventory to present relevant data for the airport. EPA notes in this table, the only discernable data for the airport are emissions calculated for aviation fuel storage tanks. In Table 19 on page 26 of the year 2000 Air Emissions Inventory, non-road emissions are only presented for the aircraft and ground support equipment. EPA is unable to discern emissions data for point, area, and mobile sources associated with the airport's operations.

Consistency with the Organic Act, the Department of the Interior Airports Act, and Department of Transportation Act Implementing Regulations

The National Park Service Organic Act bestows on NPS the power to promote and regulate the National Park System and "to conserve the scenery and . . . provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." The Department of Interior Airports Act authorizes "the Secretary of Interior... to plan..., regulate, and protect airports in the continental United States in, or in close proximity to, national parks,...when such airports are determined by him to be necessary to the proper performance of the functions of the Department of Interior." (16 U.S.C.1, I, Section 7a-7e) Implementing regulations of the Department of Transportation Act restrict use of property for transportation projects. See 23 CFR Part 774, § 774.3. Continued operation of the Jackson Hole Airport could be considered "constructive use" if "the projected noise level increase attributable to the project substantially interferes with the use and enjoyment of a noise-sensitive facility . . . such as . . . [s]leeping in the sleeping area of a campground; . . . [e]njoyment of an urban park where serenity and quiet are significant attributes; or . . . [v]iewing wildlife in an area of a wildlife and waterfowl refuge intended for such viewing." 40 CFR § 774.15(e)(1)

Pursuant to 23 CFR Section 4(f), "[t]he Administration may not approve the use, as defined in §774.17, of Section 4(f) property unless ... (a) The Administration determines that: (1) There is no feasible and prudent avoidance alternative, as defined in §774.17, to the use of land from the property; and (2) The action includes all possible planning, as defined in §774.17, to minimize harm to the property resulting from such use; or (b) The Administration determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance,

minimization, mitigation, or enhancement measures) committed to by the applicant, will have a de minimis impact, as defined in §774.17, on the property.” The Draft EIS does not address whether the proposed action constitutes a “use” and whether it otherwise complies with these statutory and regulatory requirements.

In August 1979, Secretary of Interior Cecil Andrus determined that the airport was not essential to the functions of the Park and that Jackson Hole Airport constituted “a significant environmental intrusion into the park.” Secretary Andrus urged airport relocation by 1995 when the use agreement was to expire. He denied further airport improvements including the runway extension and tried to impose a noise abatement plan for the remaining life of the airport. This decision was consistent with the NPS Organic Act and the protection of the park environment for the enjoyment of present and future generations of Americans. Secretary Andrus’ determination was, however, later reversed by Secretary James Watt in 1982, paving the way for the 50 year Airport Use Agreement. The growth of the airport has exceeded projections made in the late 1970’s and there are no limitations currently in place which would curb the future growth of this facility for either commercial or general aviation. Further, EPA notes that only six percent of the approximately 2.4 million visitors to the Park each year arrive by plane through the Jackson Hole Airport (Draft EIS, page 12). In light of these facts, EPA believes the Draft EIS should disclose the basis for Secretary Watt’s conclusion that operation of Jackson Hole Airport as a full service commercial and general aviation facility is necessary to the functions of the Park or consistent with NPS’s statutory obligations to protect Grand Teton National Park.

Cultural Resources

Since Grand Teton National Park was established, a number of important preserves and national historic monuments have been donated to the NPS that are in proximity to the Jackson Hole Airport. Most notably, the Laurance S. Rockefeller Preserve was generously conveyed to the NPS in November 2007. The 1,106 acre preserve is one of the most pristine, scenic and wildlife-rich areas in the Park. Mr. Rockefeller intended for the preserve to inspire appreciation and reverence for the beauty and solitude of the wilderness. Nearby, the Murie Center, a National Historic Landmark, works to engage people to understand and commit to the enduring value of conserving wild areas. The Murie Center, in particular, may be heavily impacted by noise from the airport. The 2006 NPS Management Policies direct: “The Service will prevent inappropriate or excessive types and levels of sound (noise) from unacceptably impacting the ability of the soundscape to transmit the cultural and historic resource sounds associated with park purposes.” The Draft EIS should detail and provide discussion on the existing and potential noise impacts to these important historic and scenic preserves. Mitigation measures should be identified.

Noise Control Act of 1972

Under the Noise Control Act of 1972, Congress established a national policy “to promote an environment for all Americans free of noise that jeopardizes public health and welfare.” Under the Noise Control Act, EPA identified L_{dn} of 55 db outdoors in residential areas as the maximum level below which no effects on public health and welfare occur due to interference

with speech or other activity. There are a number of residential populations in proximity to the airport both inside the National Park at Moose, Wyoming, and outside the National Park on private lands. The EIS should specify the existing and predicted impacts of noise from the airport to public health at these residential areas.

Greenhouse Gas and Climate Change

EPA recommends the EIS include an analysis and disclosure regarding greenhouse gas emissions and climate change. We suggest a four step approach:

1. Consider the future needs and capacity of the proposed action to adapt to projected climate change effects.
2. Characterize and quantify the expected annual cumulative emissions that would occur as a result of the extended Airport Use Agreement, operation, and maintenance activities and use CO₂-equivalent as a metric for comparing the different types of greenhouse gas emitted.
3. Briefly discuss the link between greenhouse gas and climate change, and the potential impacts of climate change.
4. Discuss potential means to mitigate project-related emissions.

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Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - - Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate: EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information: The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate: EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.